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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,331	11/18/2003	Takashi Kato	NGW-012	8280
959	7590	09/18/2006	EXAMINER	
LAHIVE & COCKFIELD 28 STATE STREET BOSTON, MA 02109			RHEE, JANE J	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 09/18/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/717,331	<b>Applicant(s)</b> KATO ET AL.	
	<b>Examiner</b> Jane Rhee	<b>Art Unit</b> 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/10/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Rejections Withdrawn***

1. The Double Patenting rejection of claims 1-8 over claims 1-11 of US Patent 6874588 in view of O'Connell et al. has been withdrawn due to the terminal disclaimer filed by the applicant on 7/10/2006.

### ***Rejections Repeated***

2. The 35 U.S.C. 103(a) rejection of claims 1-4 over Riemer et al. in view of Skala and in further view of Greenhill has been repeated as previously made in office action 3/8/2006.

3. The 35 U.S.C. 103(a) rejection of claims 5-9 over Riemer et al. in view of Skala and in further view of Greenhill has been repeated as previously made in office action 3/8/2006.

### ***Response to Arguments***

4. Applicant's arguments filed 7/10/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that Riemer reference does not teach or suggest a temperature regulating unit, a fuel supply regulating unit, or an exhaust unit thus can not teach or suggest the structural limitation that the temperature regulating unit and the fuel cell output setting unit are aligned in a traverse direction of the vehicle so as to constitute a second group and that the first group, fuel cell, and the second group and the exhaust unit are aligned in that order from front to a rear of the vehicle,

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Riemer et al. discloses an on board fuel cell powered electric vehicle (col. 2 line 7-8) comprising a fuel cell (figure 1b number 15), a humidification unit (figure 1b number 35), a fuel cell output setting unit (figure 1b number 14) wherein the fuel cell output setting unit is arranged to align in a transverse direction of the vehicle so as to constitute a first group (figure 1b number 14) and wherein the humidification unit (figure 1b number 35) is arranged to align in the transverse direction of the vehicle so as to constitute a second group, whereby the first group, the fuel cell and the second group are arranged to align in that order from a front to a rear of the vehicle (figure 1b) and Skala teaches a temperature-regulating unit (figure 1 number 42) for the purpose of controlling the coolant pumped through the fuel cell in order to maintain a desired temperature (col. 4 lines 65-col. 5 lines 1-9) and furthermore, Greenhill teaches an exhaust unit (figure 3 number 215) for the purpose of directing various fluids including reactant and coolant streams to and from the fuel cell stacks (col. 6 lines 56-59).

As to the temperature regulating unit and the fuel cell output setting unit are aligned in a traverse direction of the vehicle so as to constitute a second group and that the first group, fuel cell, and the second group and the exhaust unit are aligned in that order from front to a rear of the vehicle, it is obvious to one having ordinary skill in the art at the time the invention was made to provide temperature regulating unit, and the fuel cell output setting unit to aligned in a traverse direction of the vehicle so as to constitute a second group and that the first group, fuel cell, and the second group and the exhaust unit are aligned in that order from front to a rear of the vehicle, since it has

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been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

In response to applicant's argument that Riemer does not teach or suggest an arrangement such that the piping length of the hydrogen supply system is decreased to a shortest dimension and hence the quantity of hydrogen held within the piping of the hydrogen supply system is suppressed to a minimum level and the control response of the vehicle is improved, applicant did not claim that the piping length of the hydrogen supply system is decreased to a shortest dimension and hence the quantity of hydrogen held within the piping of the hydrogen supply system is suppressed to a minimum level and the control response of the vehicle is improved.

In response to applicant's argument that Riemer does not teach or suggest arrangements of cooling fluid pipes such that heat exchange is allowed between the cooling fluid pipes and the fuel supply regulating unit or the humidification unit, Greenhill teaches a cooling pipe through which a cooling fluid flows which has implemented a heat exchange function (col. 6 lines 17-24), wherein a fuel cell inlet of cooling fluid pipe through which the cooling fluid is introduced (col. 6 lines 17-24) to the fuel cell (col. 6 lines 17-24) and a fuel cell outlet of the cooling fluid pipe through which the cooling fluid is discharged (col. 6 lines 17-24) from the fuel cell for the purpose of providing a fuel stack that generates more heat as it produces more power (col. 2 lines 20-24), therefore, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide, Riemer et al. with a cooling pipe through which a cooling fluid flows which has implemented a heat exchange function, wherein a

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fuel cell inlet of cooling fluid pipe through which the cooling fluid is introduced to the fuel cell and a fuel cell outlet of the cooling fluid pipe through which the cooling fluid is discharged from the fuel cell in order to provide a fuel stack that generates more heat as it produces more power as taught by Greenhill.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jane Rhee  
September 8, 2006



PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER